IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

Applicant:	**Donald F. Gordon**		
Case:	**SEDN/175**	Filed:	**October 24, 2000**
Serial No.:	**09/695,898**	Confirmation #:	**3377**
Examiner:	**LEE, Y. YOUNG**	Group Art Unit:	**2621**
Title:	**METHOD AND APPARATUS FOR PERFORMING DIGITAL-TO-DIGITAL VIDEO INSERTION**		

MAIL STOP APPEAL BRIEF-PATENTS
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SIR:

APPEAL BRIEF

Appellants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2621 dated February 27, 2007 finally rejecting claims 1-2, 5, 7-15 and 17-18.

In the event that an extension of time is required for this appeal brief to be considered timely, and a petition therefor does not otherwise accompany this appeal brief, any necessary extension of time is hereby petitioned for.

The Commissioner is authorized to charge the Appeal Brief fee ($250) and any other fees due to make this filing timely and complete (including extension of time fees) to Deposit Account No. 20-0782/SEDN/175.

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Real Party in Interest

The real party in interest is SEDNA PATENT SERVICES, LLC.

Related Appeals and Interferences

Appellants assert that no appeals or interferences are known to Appellants, Appellants' legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-2, 5, 7-15 and 17-18 are pending in the application. Claims 1-20 were originally presented in the application. Claim 21 was added by amendment. Claims 3-4, 6, 16 and 19-21 were canceled without prejudice. Claims 1-2, 5, 7-15 and 17-18 stand finally rejected as discussed below. The final rejection of claims 1-2, 5, 7-15 and 17-18 is appealed.

Status of Amendments

All claim amendments have been entered.

Summary of Claimed Subject Matter

Embodiments of the present invention generally are directed to methods for seamlessly inserting a second compressed video stream into a first compressed video stream, which can be implemented in an insertion processor that typically includes a real time encoder, a buffer, a profiler, a multiplexer, and a splicer. The profiler receives the first compressed video stream and provides a profile for the stream, which may include bit rate and other information about the stream. The real time encoder receives and encodes a second video in accordance with a particular encoding scheme to generate the second compressed video stream. The real time encoder further controls the encoding of the second video based at least in part on the profile of the first compressed video stream such that the profiles for the two streams are approximately similar at the point in time the second stream is inserted into the first stream. The buffer stores the first compressed video stream from the real time encoder until it is needed. The multiplexer inserts the second compressed video stream into the first compressed video stream, and the splicer splices the two streams together to form the output video stream. (See Abstract.)

For the convenience of the Board of Patent Appeals and Interferences, Appellants' independent claims 1 and 14 are presented below in claim format with elements reading on the various figures of the drawings and appropriate citations to at least one portion of the specification for each element of the appealed claims.

Claim 1 positively recites (with reference numerals, where applicable and cites to at least one portion of the specification added):

1. A method comprising: (FIG. 4; p.10, lines 10-33)

receiving a first compressed video stream; (412)

determining a first encoding profile for the first compressed video stream; (414)

encoding a second video stream (418) in accordance with an encoding parameter associated with the first compressed video stream to generate a second compressed video stream having a second encoding

profile which matches the first encoding profile to within a requisite degree (420, 424), wherein a profiler continuously tracks the encoding parameter associated with the first compressed video stream for instant parameter changes; (p. 10, lines 16-26)

splicing the second compressed video stream into the first compressed video stream to produce a spliced stream, (426)

wherein the requisite degree of matching between the second encoding profile and the first encoding profile is selected such that the spliced video stream can be decoded without producing visible artifacts on a display during or after a transition from a first compressed video stream portion of the spliced stream to a second compressed video stream portion of the spliced stream, (p.2, lines 21-28)

wherein the encoding of the second video is controlled such that the second encoding profile approximately matches the first encoding profile at approximately a point in time when the second compressed video stream is spliced into the first compressed video stream, (p.3, lines 21-25; p.9, lines 11-15)

wherein the encoding of the second video is further controlled such that the second encoding profile approximately matches the first encoding profile at approximately a point in time when the first compressed video stream is spliced back into the spliced stream. (p.4, lines 4-9; p.8, lines 30-34)

Claim 14 positively recites (with reference numerals, where applicable and cites to at least one portion of the specification added):

14. A system operative to splice a second compressed video stream into a first compressed video stream, comprising: (FIGS. 2-4; p.5, line 25 to p.10, line 33)

a profiler (310) configured to receive the first compressed video stream and to provide a first encoding profile for the first compressed video stream; (p.6, lines 21-24)

a real time encoder (202, 202x) coupled to the profiler (310) and configured to receive and encode a second video in accordance with an encoding parameter associated with the first compressed video stream to generate the second compressed video stream having a second encoding profile matching the first encoding profile to within a requisite degree, (p.8, lines 4-10) wherein the profiler (310) continuously tracks the encoding parameter associated with the first compressed video stream for instant parameter changes; (p.6, line 31 to p.7, line 5) and

a multiplexer (312) and splicer (314) operatively coupled to the real time encoder (202x) and operative to receive the second and first compressed video streams, to splice the second compressed video stream into the first compressed video stream, (p.7, line 33 to p.8, line 3)

wherein the requisite degree of matching between the second encoding profile and the first encoding profile is selected such that the spliced video stream can be decoded without producing visible artifacts on a display during or after a transition from a first compressed video stream portion of the spliced stream to a second compressed video stream portion of the spliced stream, (p.2, lines 21-28)

wherein the real time encoder (202x) is further configured to control the encoding of the second video such that the second encoding profile approximately matches the first encoding profile at approximately a point in time when the second compressed video stream is spliced into the first compressed video stream, (p.3, lines 21-25; p.9, lines 11-15)

wherein the real time encoder (202x) is further configured to control the encoding of the second video such that the second encoding profile approximately matches the first encoding profile for the first compressed video stream at approximately a point in time when the first compressed video stream is spliced back into the second compressed video stream. (p.4, lines 4-9; p.8, lines 30-34)

Grounds of Rejection to be Reviewed on Appeal

The Examiner has rejected claims 1-2, 5, 7-15 and 17-18 under 35 U.S.C. §102(b) as being unpatentable over Egawa et al. (U.S. Patent No. 5,534,944, hereinafter "Egawa").

ARGUMENTS

35 U.S.C. §102(b) Rejection of Claims 1-2, 5, 7-15, and 17-18

The Examiner has rejected Claims 1-2, 5, 7-15, and 17-18 under 35 U.S.C. §102(b) as being anticipated by Egawa et al. (U.S. patent 5,534,944, hereinafter "Egawa"). Appellants disagree.

Applicant's invention provides a method of encoding a second video stream to form a compressed second video stream, and then splicing the compressed second video stream to a first video stream. The encoding of the second video stream is done in accordance with an encoding parameter associated with the first compressed video stream, with the second encoding profile matching that of the first encoding profile within a requisite degree.

By encoding the second stream such that its encoding profile matches that of the first stream, the resulting compressed second stream can be spliced to the first compressed video stream to form a spliced video stream, which can then be decoded without producing visible artifacts during or after a transition from the first to the second compressed stream portion of the spliced stream.

In the Final Office Action (page 2, Response to Arguments), Egawa's Fig. 6 was cited as teaching the concept of a common encoding parameter (e.g., 612-620) associated with the first compressed video stream, and Fig. 4 was cited as teaching a profiler 412 that continuously tracks the same encoding parameter for instant parameter changes. Furthermore, in the Advisory Action, Figs. 5-7 of Egawa were cited as illustrating "various parameters associated [with] the compressed video streams."

Although Appellant agrees that Egawa teaches various parameters associated with the two compressed signals, Stream 1 and Stream 2, Egawa's teaching does not anticipate Applicant's claimed invention because Egawa's parameters relate only to a method of splicing Stream 2 to Stream 1. Unlike Applicant's invention, Egawa's parameters are not encoding parameters used for encoding Stream 2.

Specifically, Egawa does not teach or suggest at least the following features of Applicant's claim 1: "encoding a second video stream in accordance with an encoding parameter associated with the first compressed video stream to generate a second compressed video stream having a second encoding profile which matches the first encoding profile to within a requisite degree, wherein a profiler continuously tracks the encoding parameter associated with the first compressed video stream for instant parameter changes."

Instead, Egawa teaches a method of splicing two compressed video signals by inserting an amount of null information between the two signals in order to avoid buffer overflow, with the amount of null information being "determined from the data rates of the first and second compressed video signals and the amount of new data which is provided to the buffer before the data is retrieved from the buffer for both the first and second video signals" (Egawa's Abstract). The null information is inserted as sequence stuffing bits into a buffer immediately after the selected picture in the first video signal, and the second video signal is transmitted to the buffer immediately after these stuffing bits (Egawa's Abstract).

As taught by Egawa, Fig. 4 shows portions of a MPEG-2 or HDTV splicer and a decoder, and the splicer includes processor 412, "which is coupled to receive the main and insert MPEG-2 HDTV signals, STREAM1 and STREAM2, respectively" (col. 5, lines 6-11). Egawa further teaches that each of these signals may be generated by a conventional HDTV encoder or a MPEG-2 encoder" (col. 5, lines 11-20). That is, both Stream 1 and Stream 2 received by processor 412 are already encoded streams.

Processor 412 is further coupled to two buffers, one of which (414) is used to gather information from which NSTUFF is calculated, while the other buffer (416) performs the actual splicing (col. 5, lines 21-29). Processor 412 also calculates the number of stuffing bits (col. 6, lines 49-50; col. 4, lines 46-49) to be inserted between the two video signal streams Stream 1 and Stream 2, in order

to avoid buffer overflow at an input buffer 424 of the decoder 420 (Abstract; col. 7, lines 1-4).

Egawa's Figs. 5-7 relate only to the following processes used for splicing together the two encoded streams (Stream 1 and Stream 2):

1) sending the two compressed Stream 1 and Stream 2, at their respective original bit rates, to buffer 414 for gathering information about the streams for determination of splicing parameters (Fig. 5; col. 5, line 30 to col. 6, line 48);

2) based on the gathered information, determining an appropriate number of stuffing bits to be inserted between the two streams (Fig. 6; col. 6, line49 to col. 7, line 4); and

3) sending Stream 1 and Stream 2 to buffer 416 for the actual splicing, with the number of stuffing bits inserted between the two compressed streams (Fig. 7; col. 7, lines 5-61).

Specifically, Fig. 6 teaches (in steps 612-620) the calculation of a value NSTUFF, which is the number of stuffing bits to be inserted between the already encoded Stream 1 and Stream 2.

However, unlike Applicant's claimed invention, this parameter NSTUFF, or those calculated in steps 614 and 616, are not encoding parameters used for encoding Stream 2.

In fact, there is no need for Egawa to calculate any encoding parameter for Stream 2, because, as taught in Egawa's col. 5, lines 11-20, Stream 2 received by processor 412 is already an encoded stream (e.g., by a conventional HDTV or MPEG-2 encoder).

Appellant submits that there is simply no teaching in Egawa's Figs. 4-7 regarding the encoding of Stream 2 based on any encoding parameter associated with Stream 1, or encoding Stream 2 in the manner provided in Applicant's invention, namely, by providing a second encoding profile for the second stream to match the first encoding profile of the first compressed stream to within a requisite degree.

As such, Egawa fails to teach or suggest at least "encoding a second video stream in accordance with a encoding parameter associated with the first compressed video stream to generate a second compressed video stream having a second encoding profile which matches the first encoding profile to within a requisite degree, wherein a profiler continuously tracks the encoding parameter associated with the first compressed video stream for instant parameter changes," as recited in Appellant's claim 1.

Therefore, claim 1 is not anticipated by Egawa and is patentable under 35 U.S.C. §102.

Since independent claim 14 includes relevant limitations similar to those discussed above in regards to claim 1, namely:

> "a real time encoder coupled to the profiler and configured to receive and encode a second video in accordance with an encoding parameter associated with the first compressed video stream to generate the second compressed video stream having a second encoding profile matching the first encoding profile to within a requisite degree, wherein the profiler continuously tracks the encoding parameter associated with the first compressed video stream for instant parameter changes",

claim 14 is also not anticipated by Egawa and is patentable under 35 U.S.C. §102.

Furthermore, claims 2, 5, 7-13, 15, and 17-18 depend, either directly or indirectly, from independent claims 1 and 14, and recite additional limitations thereof. As such and at least for the same reasons as discussed above, these dependent claims are also not anticipated by Egawa and are patentable under 35 U.S.C. §102.

CONCLUSION

Thus, Appellants submit that none of the claims presently in the application are allowable under the provision of 35 U.S.C. §102.

For the reasons advanced above, Appellants respectfully urge that the rejections of claims 1-2, 5, 7-15 and 17-18 are improper. Reversal of the rejections of the Final Office Action is respectfully requested.

Respectfully submitted,

7/31/07
Date

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CLAIMS APPENDIX

1. (previously presented) A method comprising:

receiving a first compressed video stream;

determining a first encoding profile for the first compressed video stream;

encoding a second video stream in accordance with an encoding parameter associated with the first compressed video stream to generate a second compressed video stream having a second encoding profile which matches the first encoding profile to within a requisite degree, wherein a profiler continuously tracks the encoding parameter associated with the first compressed video stream for instant parameter changes;

splicing the second compressed video stream into the first compressed video stream to produce a spliced stream,

wherein the requisite degree of matching between the second encoding profile and the first encoding profile is selected such that the spliced video stream can be decoded without producing visible artifacts on a display during or after a transition from a first compressed video stream portion of the spliced stream to a second compressed video stream portion of the spliced stream,

wherein the encoding of the second video is controlled such that the second encoding profile approximately matches the first encoding profile at approximately a point in time when the second compressed video stream is spliced into the first compressed video stream,

wherein the encoding of the second video is further controlled such that the second encoding profile approximately matches the first encoding profile at approximately a point in time when the first compressed video stream is spliced back into the spliced stream.

2. (previously presented) The method of claim 1, further comprising:

determining the second encoding profile for the second compressed video stream.

3-4. (cancelled)

5. (previously presented) The method of claim 1, wherein splicing includes

initially multiplexing the first compressed video stream as an output video stream;

multiplexing the second compressed video stream as the output video stream at a point in time when the inserting is to be achieved; and

splicing the second compressed video stream to the first compressed video stream.

6. (cancelled)

7. (previously presented) The method of claim 1, further comprising:

receiving a control signal indicative of a time period within which the splicing is to be performed; and

initiating the encoding of the second video stream in response to receiving the control signal.

8. (previously presented) The method of claim 7, further comprising:

buffering the second compressed video stream prior to splicing.

9. (original) The method of claim 1, wherein the second video relates to an advertisement and the first compressed video stream relates to a program video.

10. (previously presented) The method of claim 1, wherein the first encoding profile includes bit rate information related to the first compressed video stream.

11. (original) The method of claim 10, wherein the bit rate information includes a high bit rate, a low bit rate, and a mean bit rate determined over a particular time period.

12. (previously presented) The method of claim 10, wherein the first encoding profile further includes video buffering verifier (VBV) buffer information used for the encoding.

13. (original) The method of claim 1, wherein the second video is encoded in accordance with an MPEG encoding scheme.

14. (currently amended) A system operative to splice a second compressed video stream into a first compressed video stream, comprising:

a profiler configured to receive the first compressed video stream and to provide a first encoding profile for the first compressed video stream;

a real time encoder coupled to the profiler and configured to receive and encode a second video in accordance with an encoding parameter associated with the first compressed video stream to generate the second compressed video stream having a second encoding profile matching the first encoding profile to within a requisite degree, wherein the profiler continuously tracks the encoding parameter associated with the first compressed video stream for instant parameter changes; and

a multiplexer and splicer operatively coupled to the real time encoder and operative to receive the second and first compressed video streams, to splice the second compressed video stream into the first compressed video stream,

wherein the requisite degree of matching between the second encoding profile and the first encoding profile is selected such that the spliced video stream can be decoded without producing visible artifacts on a display during or after a transition from a first compressed video stream portion of the spliced stream to a second compressed video stream portion of the spliced stream,

wherein the real time encoder is further configured to control the encoding of the second video such that the second encoding profile approximately matches the first encoding profile at approximately a point in time when the second compressed video stream is spliced into the first compressed video stream,

wherein the real time encoder is further configured to control the encoding of the second video such that the second encoding profile approximately matches the first encoding profile for the first compressed video stream at approximately a point in time when the first compressed video stream is spliced back into the second compressed video stream.

15. (previously presented) The system of claim 14, further comprising:

a buffer coupled to the real time encoder and the splicer and configured to receive and buffer the first compressed video stream from the real time encoder.

16. (Cancelled)

17. (previously presented) The system of claim 14, wherein the profiler is further configured to receive the second compressed video stream and provide the second encoding profile.

18. (previously presented) The system of claim 14, wherein the second encoding profile includes bit rate information related to the second compressed video stream.

19-21. (Cancelled)

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None